Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-28. (Cancelled)

Claim 29. (Currently Amended): A method for treating or preventing autoimmune disease in a ~~post-pubertal~~ patient, comprising:

~~ablating~~ depleting T cells in the patient; and

reactivating the thymus of the patient,

wherein the patient has an improved prognosis for the autoimmune disease compared to an untreated patient suffering from an autoimmune disease.

Claim 30. (Previously Presented): The method of claim 29, wherein the thymus of the patient has been at least in part atrophied before it is reactivated.

Claim 31. (Previously Presented): The method of claim 29, wherein the thymus is reactivated by disruption of sex steroid-mediated signaling to the thymus.

Claim 32. (Currently Amended): The method of claim 29, further comprising administering cells to the patient, wherein the cells are stem cells, progenitor cells, dendritic cells, or combinations thereof.

Claim 33. (Previously Presented): The method of claim 32, wherein the stem cells are selected from the group consisting of hematopoietic stem cells, epithelial stem cells, and combinations thereof.

Claim 34. (Previously Presented): The method of claim 32, wherein the progenitor cells are selected from the group consisting of lymphoid progenitor cells, myeloid progenitor cells, and combinations thereof.

Claim 35. (Cancelled)

Claim 36. (Previously Presented): The method of claim 33, wherein the cells are hematopoietic stem cells.

Claim 37. (Currently Amended): The method of claim 36, wherein the hematopoietic stem cells are ~~CD34+~~ CD34$^+$.

Claim 38. (Currently Amended): The method of claim ~~36~~ 32, wherein the ~~hematopoietic stem~~ cells are autologous.

Claim 39. (Currently Amended): The method of claim ~~36~~ 32, wherein the ~~hematopoietic stem~~ cells are not autologous.

Claim 40. (Currently Amended): The method of claim ~~36~~ 32, wherein the ~~hematopoietic stem~~ cells are administered when the thymus begins to reactivate.

Claim 41. (Currently Amended): The method of claim 31, further comprising administering cells to the patient, wherein the cells are stem cells, progenitor cells, dendritic cells or combinations thereof.

Claim 42. (Previously Presented): The method of claim 41, wherein the stem cells are selected from the group consisting of hematopoietic stem cells, epithelial stem cells, and combinations thereof.

Claim 43. (Previously Presented): The method of claim 41, wherein the progenitor cells are selected from the group consisting of lymphoid progenitor cells, myeloid progenitor cells, and combinations thereof.

Claim 44. (Cancelled)

Claim 45. (Previously Presented): The method of claim 42, wherein the cells are hematopoietic stem cells.

Claim 46. (Previously Presented): The method of claim 31, wherein the sex steroid-mediated signaling to the thymus is disrupted by surgical castration.

Claim 47. (Previously Presented): The method of claim 31, wherein the sex steroid-mediated signaling to the thymus is disrupted by chemical castration.

Claim 48. (Currently Amended): The method of claim 31, wherein the sex steroid-mediated signaling to the thymus is disrupted by administration of ~~one or more pharmaceuticals~~ a pharmaceutical.

Claim 49. (Currently Amended): The method of claim 48, wherein the ~~one or more pharmaceuticals~~ pharmaceutical is selected from the group consisting of LHRH agonists, LHRH antagonists, anti-LHRH vaccines, anti-androgens, anti-estrogens, SERMs, SARMs, SPRMs, ERDs, ~~armotase~~ aromatase inhibitors, anti-progestogens, Dioxalan derivatives, and combinations thereof.

Claim 50. (Currently Amended): The method of claim 49, wherein the LHRH agonists are selected from the group consisting of ~~Eulexin,~~ Goserelin, Leuprolide, Lupron, ~~Dioxalan derivatives,~~ Triptorelin, Meterelin, Buserelin, Histrelin, Nafarelin, Lutrelin, Leuprorelin, Deslorelin Cystorelin, Decapeptyl, Gonadorelin, and combinations thereof.

Claim 51. (Previously Presented): The method of claim 49, wherein the LHRH antagonists are selected from the group consisting of Abarelix, Cetrorelix, and combinations thereof.

Claim 52. (Cancelled)

Claim 53. (Currently Amended): A method for treating or preventing an allergy in a patient, comprising:

~~ablating~~ depleting T cells in the patient; and

reactivating a thymus of the patient,

wherein the treated patient has an improved prognosis compared to an untreated patient.

Claim 54. (Previously Presented): The method of claim 53, wherein the thymus of the patient has been at least in part atrophied before it is reactivated.

Claim 55. (Previously Presented): The method of claim 54, wherein the thymus is reactivated by disruption of sex steroid-mediated signaling to the thymus.

Claim 56. (Previously Presented): The method of claim 53, wherein the patient is post-pubertal.

Claim 57. (Currently Amended): The method of claim 53, further comprising administering cells to the patient, wherein the cells are stem cells, progenitor cells, dendritic cells or combinations thereof.

Claim 58. (Previously Presented): The method of claim 57, wherein the stem cells are selected from the group consisting of hematopoietic stem cells, epithelial stem cells, and combinations thereof.

Claim 59. (Previously Presented): The method of claim 57, wherein the progenitor cells are selected from the group consisting of lymphoid progenitor cells, myeloid progenitor cells, and combinations thereof.

Claim 60. (Cancelled)

Claim 61. (Previously Presented): The method of claim 58, wherein the cells are hematopoietic stem cells.

Claim 62. (Currently Amended): The method of claim 61, wherein the hematopoietic stem cells are ~~CD34+~~ $CD34^+$.

Claim 63. (Currently Amended): The method of claim ~~61~~ 57, wherein the ~~hematopoietic stem~~ cells are autologous.

Claim 64. (Currently Amended): The method of claim ~~61~~ 57, wherein the ~~hematopoietic stem~~ cells are not autologous.

Claim 65. (Currently Amended): The method of claim ~~61~~ 57, wherein the ~~hematopoietic stem~~ cells are administered when the thymus begins to reactivate.

Claim 66. (Currently Amended): The method of claim 55, further comprising administering cells to the patient, wherein the cells are stem cells, progenitor cells, dendritic cells or combinations thereof.

Claim 67. (Previously Presented): The method of claim 66, wherein the stem cells are selected from the group consisting of hematopoietic stem cells, epithelial stem cells, and combinations thereof.

Claim 68. (Previously Presented): The method of claim 66, wherein the progenitor cells are selected from the group consisting of lymphoid progenitor cells, myeloid progenitor cells, and combinations thereof.

Claim 69. (Cancelled)

Claim 70. (Previously Presented): The method of claim 67, wherein the cells are hematopoietic stem cells.

Claim 71. (Currently Amended): The method of claim ~~70~~ 66, wherein the ~~hematopoietic stem~~ cells are administered when the thymus begins to reactivate.

Claim 72. (Currently Amended): The method of claim ~~70~~ 66, wherein the ~~hematopoietic stem~~ cells are administered at the time disruption of sex steroid-mediated signaling to the thymus is begun.

Claim 73. (Previously Presented): The method of claim 55, wherein the sex steroid-mediated signaling to the thymus is disrupted by surgical castration.

Claim 74. (Previously Presented): The method of claim 55, wherein the sex steroid-mediated signaling to the thymus is disrupted by chemical castration.

Claim 75. (Currently Amended): The method of claim 55, wherein the sex steroid-mediated signaling to the thymus is disrupted by administration of ~~one or more pharmaceuticals~~ a pharmaceutical.

Claim 76. (Currently Amended): The method of claim 75, wherein the ~~one or more pharmaceuticals~~ pharmaceutical is selected from the group consisting of LHRH agonists, LHRH antagonists, anti-LHRH vaccines, anti-androgens, anti-estrogens, SERMs, SARMs, SPRMs, ERDs, ~~armotase~~ aromatase inhibitors, anti-progestogens, Dioxalan derivatives, and combinations thereof.

Claim 77. (Currently Amended): The method of claim 76, wherein the LHRH agonists are selected from the group consisting of ~~Eulexin,~~ Goserelin, Leuprolide, Lupron, ~~Dioxalan derivatives~~, Triptorelin, Meterelin, Buserelin, Histrelin, Nafarelin, Lutrelin,

Leuprorelin, Deslorelin, Cystorelin, Decapeptyl, Gonadorelin, and combinations thereof.

Claim 78. (Previously Presented): The method of claim 76, wherein the LHRH antagonists are selected from the group consisting of Abarelix, Cetrorelix, and combinations thereof.

Claim 79. (Cancelled)

Claim 80. (Currently Amended): The method of claim 29, further comprising administering ~~at least one~~ a cytokine, ~~at least one~~ a growth factor, or a combination of ~~at least one~~ a cytokine and ~~at least one~~ a growth factor to the patient.

Claim 81. (Previously Presented): The method of claim 80, wherein the cytokine is selected from the group consisting of Interleukin 2 (IL-2), Interleukin 7 (IL-7), Interleukin 15 (IL-15), and combinations thereof.

Claim 82. (Currently Amended): The method of claim 80, wherein the growth factor is selected from the group consisting of ~~members~~ a member of the epithelial growth factor family, ~~members~~ a member of the fibroblast growth factor family, stem cell factor, granulocyte colony stimulating factor (G-CSF), keratinocyte growth factor (KGF), insulin-like growth factor, a growth hormone, a thyroid hormone, and combinations thereof.

Claim 83. (Cancelled)

Claim 84. (Currently Amended): The method of claim 53, further comprising administering ~~at least one~~ a cytokine, ~~at least one~~ a growth factor, or a combination of ~~at least one~~ a cytokine and ~~at least one~~ a growth factor to the patient.

Claim 85. (Previously Presented): The method of claim 84, wherein the cytokine is selected from the group consisting of Interleukin 2 (IL-2), Interleukin 7 (IL-7), Interleukin 15 (IL-15), and combinations thereof.

Claim 86. (Currently Amended): The method of claim 84, wherein the growth factor is selected from the group consisting of ~~members~~ a member of the epithelial growth factor family, ~~members~~ a member of the fibroblast growth factor family, stem cell factor, granulocyte colony stimulating factor (G-CSF), keratinocyte growth factor (KGF), insulin-like growth factor, a growth hormone, a thyroid hormone, and combinations thereof.

Claims 87-89. (Cancelled)

Claim 90. (Currently Amended): A method for enhancing transplantation of donor hematopoietic stem cells into the thymus of a recipient patient, comprising:

depleting the T cells of the ~~patient,~~ patient;

reactivating the thymus of the ~~patient,~~ patient; and

transplanting donor hematopoietic stem cells to the patient,

wherein uptake of the donor hematopoietic stem cells into the patient's thymus is enhanced as compared to the uptake that would have otherwise occurred in a patient prior to thymus reactivation.

Claim 91. (Currently Amended): A method for increasing virus-specific peripheral T cell responsiveness of a patient with an at least partially atrophied thymus, comprising:

reactivating the thymus of the ~~patient,~~ patient;

exposing the patient to a ~~virus,~~ virus; and

determining the virus-specific peripheral T cell responsiveness in the patient,

wherein the patient has an increased viral-specific peripheral T cell responsiveness as compared to the responsiveness that would have otherwise occurred in a patient prior to thymus reactivation.

Claim 92. (New): The method of claim 29, wherein the patient is post-pubertal.

Claim 93. (New): The method of claims 38 or 63, wherein the autologous cells are genetically modified.

Claim 94. (New): The method of claim 31 or 55, wherein the sex-steroid mediated signaling to the thymus is disrupted by lowering the level of a sex steroid hormone.

Claim 95. (New): The method of claim 29, wherein the patient is immunosuppressed.

Claim 96. (New): The method of claim 31, wherein the T cell depletion and disruption of sex-steroid-mediated signaling are begun at the same time.

Claim 97. (New): The method of claim 31, wherein the T cells are depleted before administration of cells from the mismatched donor to the patient.

Claim 98. (New): The method of claim 31, wherein the disruption of sex-steroid mediated signaling is begun before T cell depletion and administration of cells.

Claim 99. (New): A method for treating or preventing autoimmune disease in a patient, comprising reactivating the thymus of the patient, wherein the patient has an improved prognosis for the autoimmune disease compared to an untreated patient suffering from an autoimmune disease.

Claim 100. (New): A method for treating or preventing autoimmune disease in a patient, comprising:

providing the patient with immunosuppressive therapy; and

reactivating the thymus of the patient,

wherein the patient has an improved prognosis for the autoimmune disease compared to an untreated patient suffering from an autoimmune disease.

Claim 101. (New): The method of claim 49 or 76, wherein the anti-androgen is Eulexin or ketoconazole.